



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

DEC 20 2001

400 Seventh St., S.W.  
Washington, D.C. 20590

Ms. Linda Jeschofnig  
Learning Resources Unlimited, Inc.  
412 13<sup>th</sup> Street  
Glenwood Springs, CO 81601

Reference No.: 01-0281

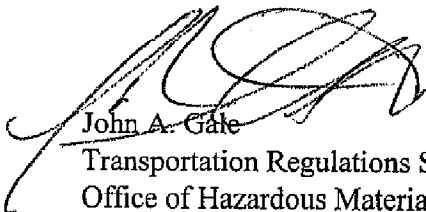
Dear Ms. Jeschofnig:

This is in response to your letter asking whether chemical kits meeting the criteria for small quantities in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) may be offered for transportation in domestic and international air commerce.

As you are aware, § 173.4 of the HMR excepts small quantities of certain hazardous materials from the regulations for all modes of transportation. Section 173.4(a)(8) limits the maximum gross weight of a completed package to not more than 29 kg (64 lbs). Section 171.11 authorizes the use of the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Technical Instructions) as an alternative to the HMR for air shipments, with certain exceptions. The ICAO Technical Instruction refer to "small quantities" as "Dangerous Goods in Excepted Quantities." For a list of acceptable dangerous goods, specific packaging requirements, and quantity limitations, please consult Part 1, Chapter 2 of the ICAO Technical Instructions.

I hope this information is helpful.

Sincerely,



John A. Gale  
Transportation Regulations Specialist  
Office of Hazardous Materials Safety



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173.4

**Learning Resources Unlimited, Inc.**

Owners/Directors: Linda Jeschofnig, M.S.  
Peter Jeschofnig, Ph.D.

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**www.chem-kits.com**

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Edward Mazzulo, Director  
U.S. Department of Transportation  
Via fax: 202-366-3012

Corbin  
\$173.40  
Small quantity  
01-0281  
Re: Request for Letter of Interpretation

October 23, 2001

Dear Director Mazzulo,

We produce a micro-scale chemistry kit for college and A/P high school distance education chemistry courses and have done so for over six years. Our kits are currently labeled "This package conforms to 49 CFR 173.4," and they have been individually shipped only within the continental USA via UPS ground service.

I now understand that these kits can also be shipped via air services to locations both within the USA and abroad plus via all freight services to locations abroad provided that international shipment labels also state "Dangerous Goods in Acceptable Quantities." We have numerous requests for air shipments and for shipments abroad and would like to fill these orders if we may legally do so. Thus, we are requesting a formal letter of interpretation from your office advising if our understandings are correct and how we should handle air and international shipments.

For your reference, I am enclosing a complete list of our kit's contents. There are 63 separate "wet" chemicals in our kits; each is less than 4 milliliters in quantity and packaged in heat-sealed thin-stemmed micro pipets. Four additional wet chemicals in quantities of 5 to 12 milliliters are packaged in plastic half ounce dropper bottles. The kit's 14 "dry" chemicals are in quantities of less than 2 grams each and are packaged in 2"x2" zip lock bags. The total chemical content of our kits is approximately 350 milliliters.

After initial packaging, individually packaged chemicals are then additionally packaged in zip lock bags by experiment number. The eleven experiment packages are then placed, along with miscellaneous supplies and equipment (well-plates, goggles, etc), in the kit's 200 pound-test box that is inserted in an appropriately labeled cardboard sleeve for shipping. The completed kit weighs just under 4 pounds and passes the 1.8 meter drop tests with no problems.

We have several small institutions that wish to order numerous kits, and we need to know how many kits we can legally ship in one carton/container. Thus, would you please also advise of the total quantity of kits that can legally be shipped together and how these should be handled.

Thank you for your assistance in this matter.

Kind regards,



Linda Jeschofnig